

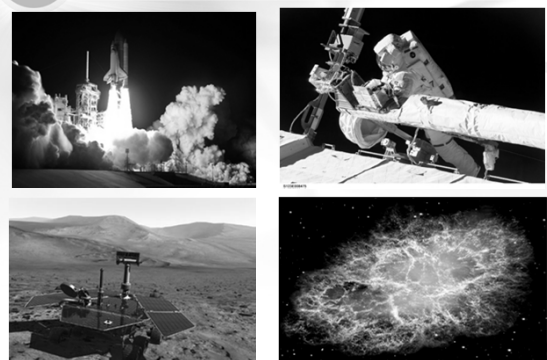
Earth Science at NASA



Michael Goodman
NASA Marshall Space Flight Center
19 October 2012



When People Think of NASA...




NASA is a Leader in Earth Science



Goal: Study Earth from space to advance scientific understanding and meet societal needs



NASA Earth Science

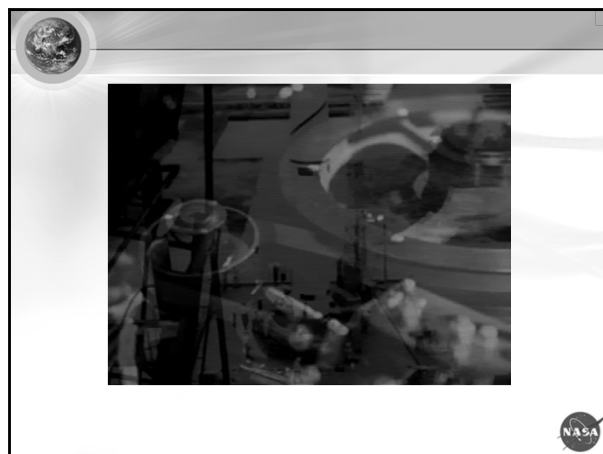
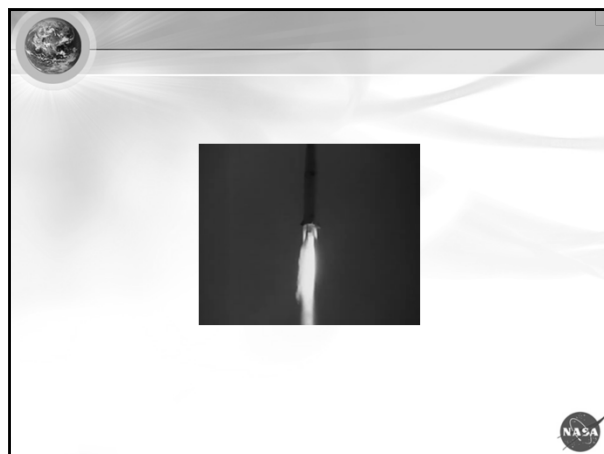
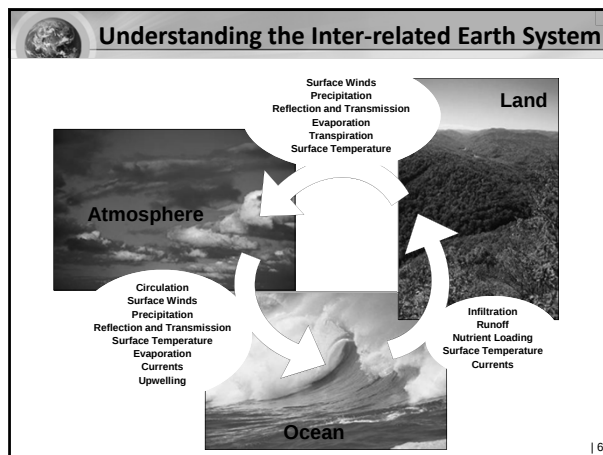
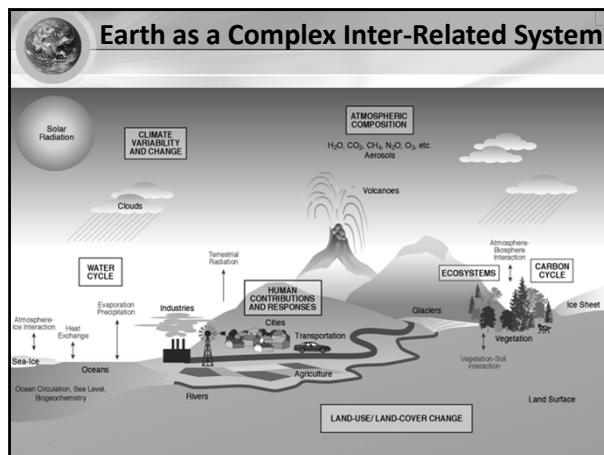
The NASA Earth Science Division supports basic and applied research on the Earth system and its processes.

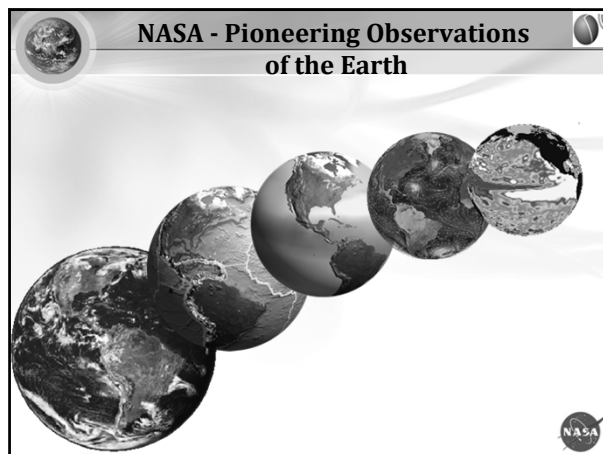
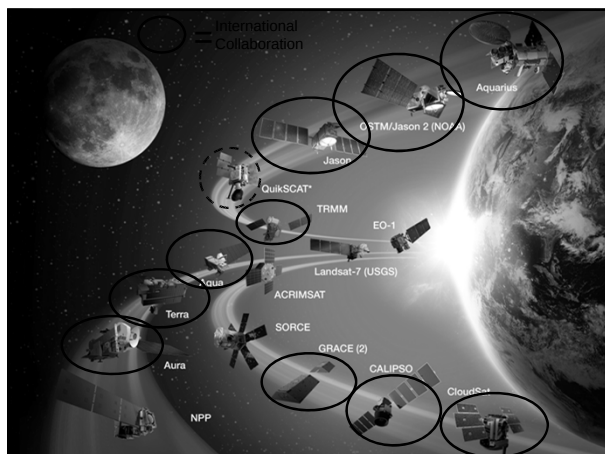
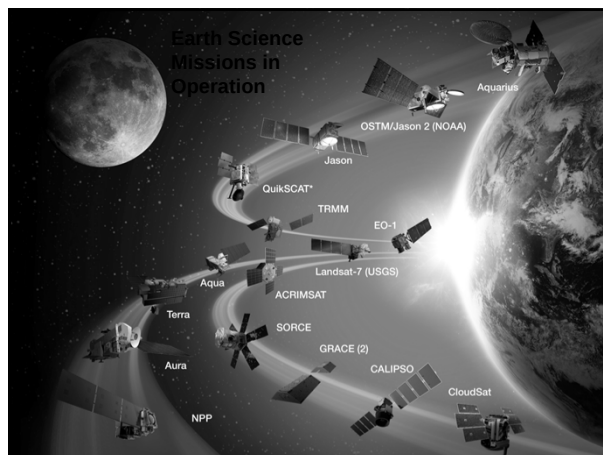
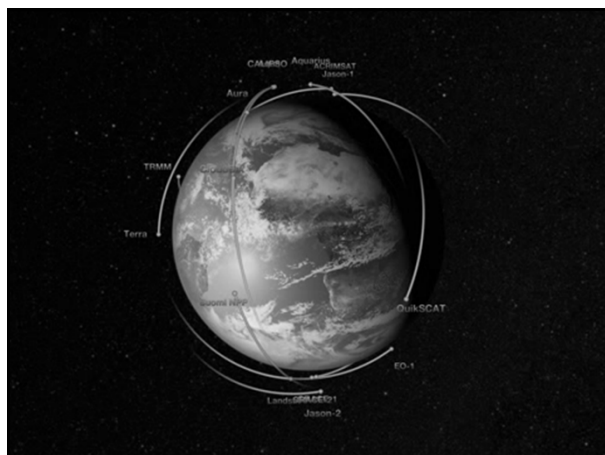
Primary efforts are to characterize, understand, and improve predictions of the Earth system.

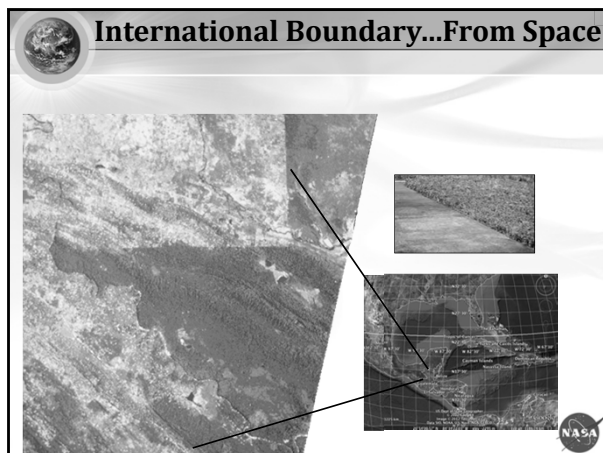
In the course the research, NASA pursues innovative and practical uses of Earth science data to improve government, business, and independent organizations decision-making activities for societal benefits

- **Technology**
- **Satellites**
- **Research**
- **Applications**
- **Data Systems**
- **Education**









SERVIR

Regional Platforms for Science and Policy

Strengthen capacity of governments and other key stakeholders to integrate Earth observation information and geospatial technologies into development decision-making

- Data and Models
- Online Maps
- Visualizations
- Decision Support
- Training
- Partnerships

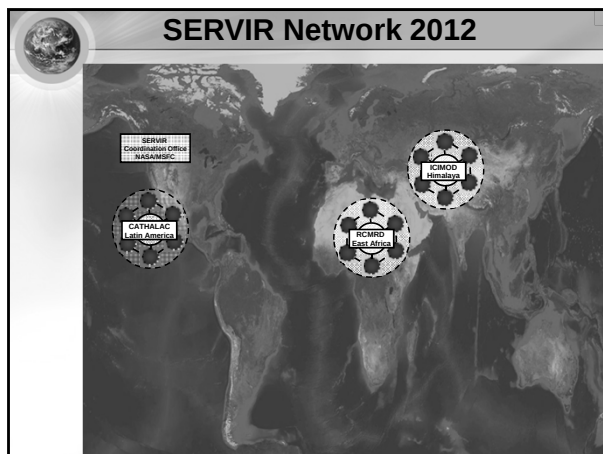
Supported by:
USAID & NASA

Flood Forecasting in Africa

Training and Capacity Building

Mapping Fires in Guatemala Mexico

USAID NASA



SERVIR-Mesoamerica at CATHALAC

CITY OF KNOWLEDGE, PANAMA

Dedicated on February 3, 2005

CATHALAC NASA

SERVIR-Africa @ RCMRD NAIROBI, KENYA

Dedicated on
November 21, 2008











SERVIR-Himalaya @ ICIMOD KATHMANDU, NEPAL

Dedicated on
October 5, 2010



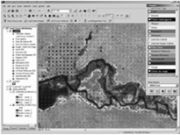




Earth Observations & Geospatial Capacity



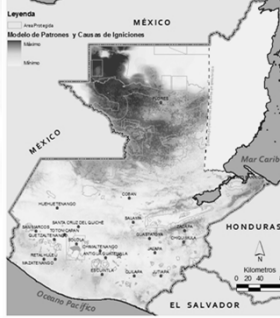






SERVIR: Fire Forecasting

Fire forecasting uses MODIS Rapid Response System, a collaborative effort between NASA Goddard Space Flight Center and University of Maryland

Leyenda
 - Línea roja: Modelo de Patrones y Causas de Igniciones
 - Línea azul: Límite
 - Línea verde: Límite

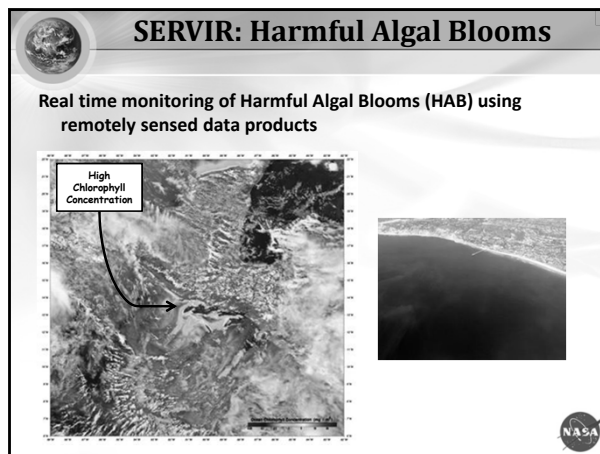
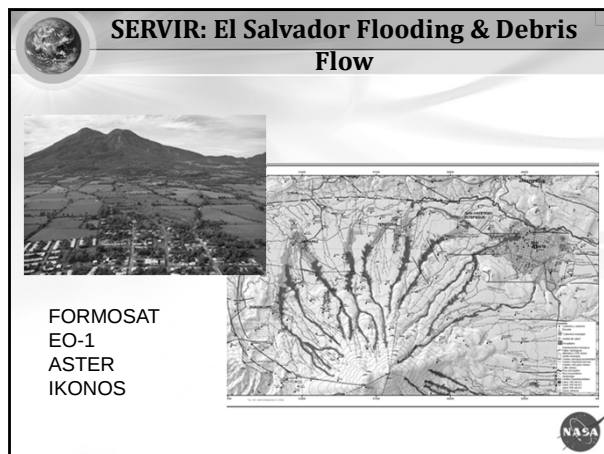
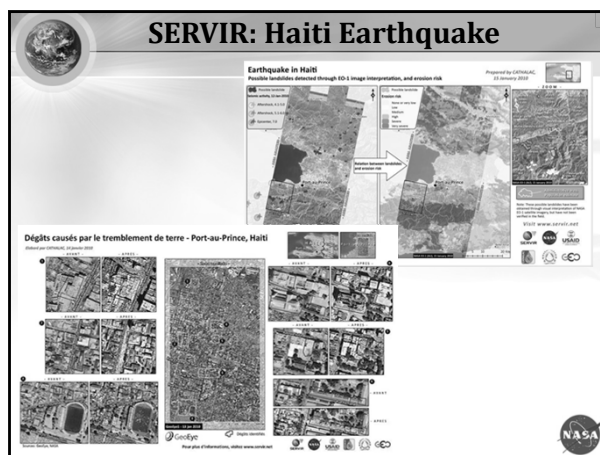
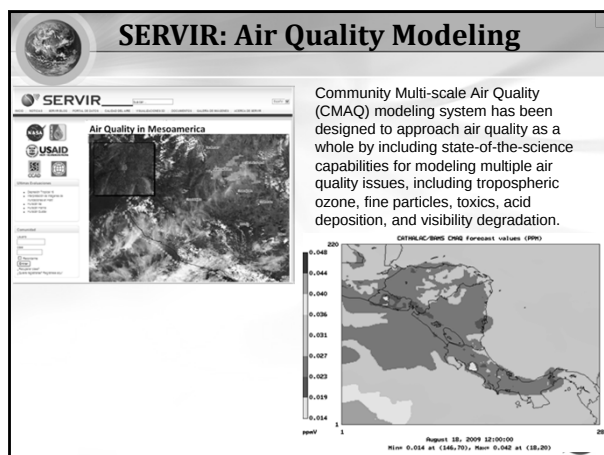
MEXICO
 - Baja California Sur
 - Baja California
 - Sonora
 - Chihuahua
 - Coahuila de Zaragoza
 - Durango
 - Zacatecas
 - Aguascalientes
 - Jalisco
 - Nayarit
 - Oaxaca
 - Guerrero
 - Chiapas
 - Tabasco
 - Yucatán
 - Quintana Roo
 - Campeche
 - Yucatán

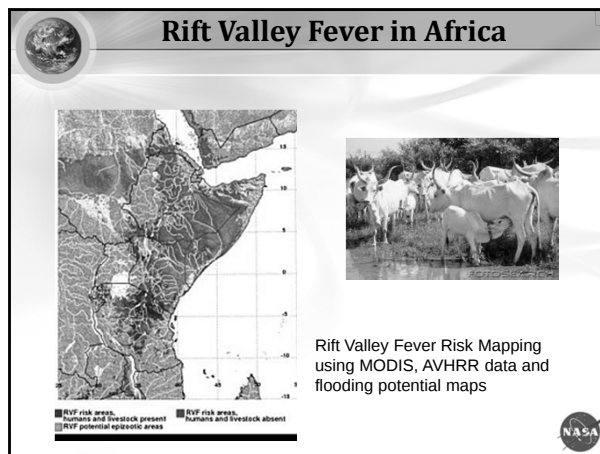
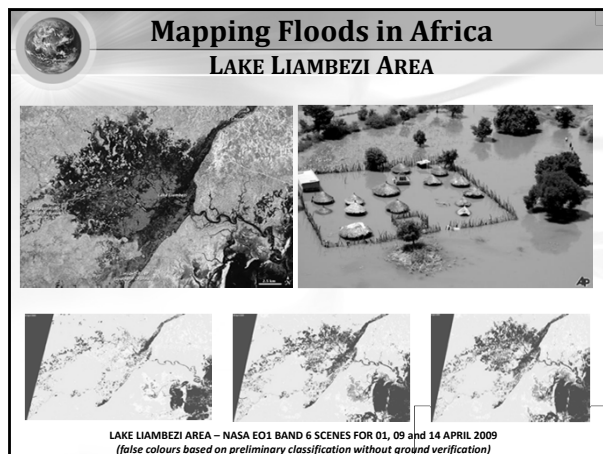
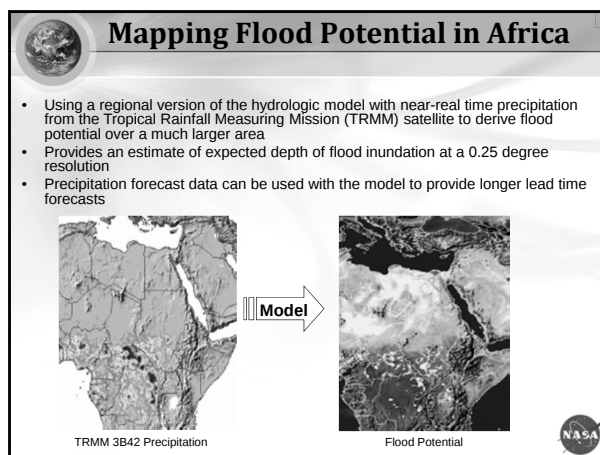
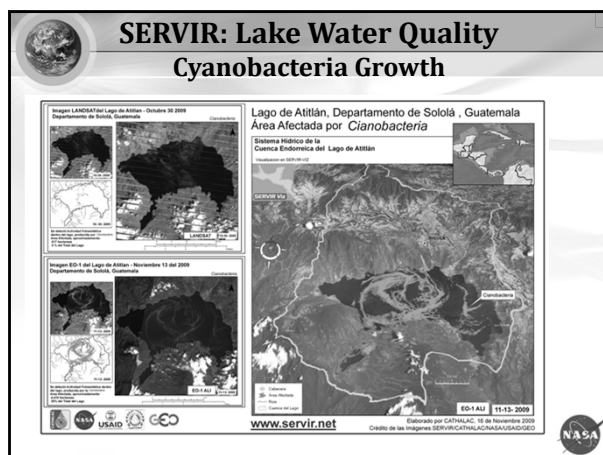
HONDURAS
 - Atlántico

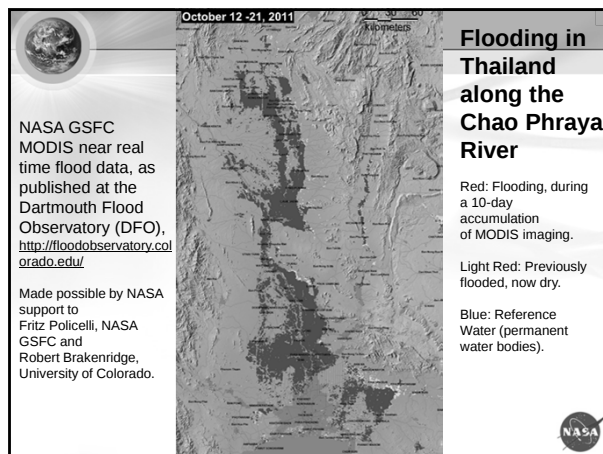
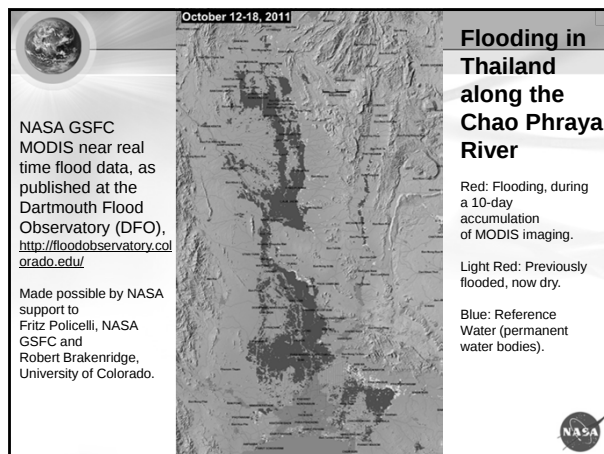
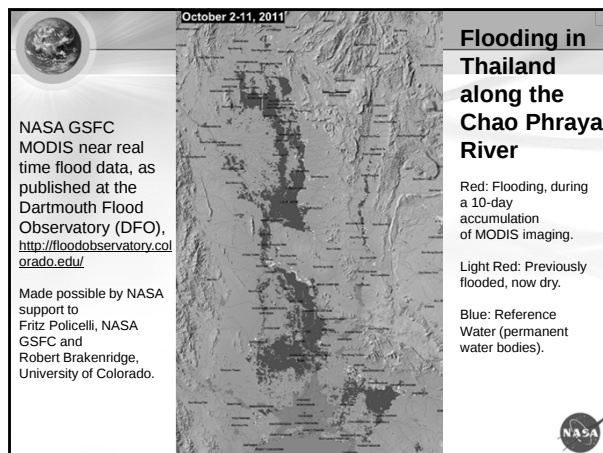
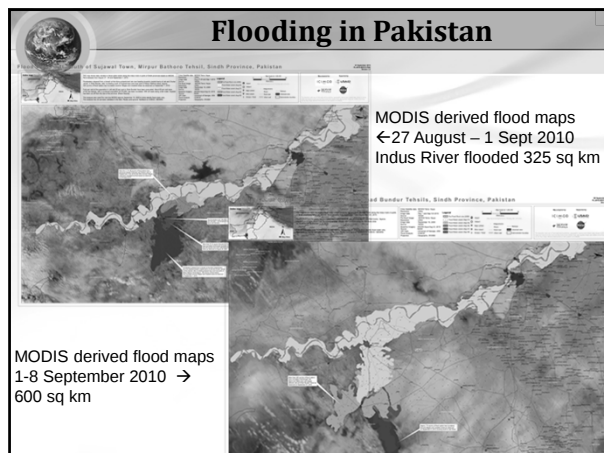
EL SALVADOR
 - Golfo de México

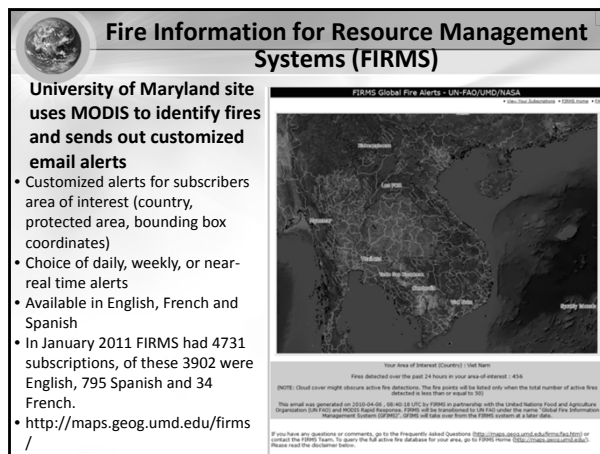
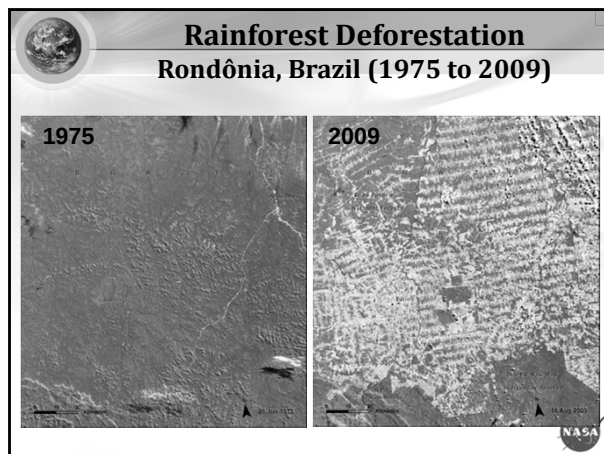
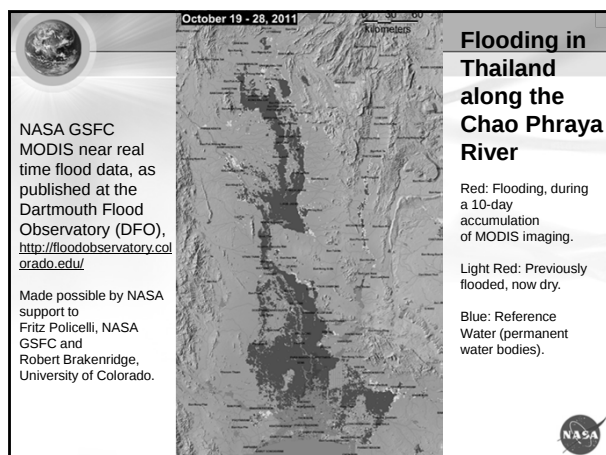
Mar Caribe
 - Océano Pacífico

Escala:
 0 20 40 60 Kilómetros



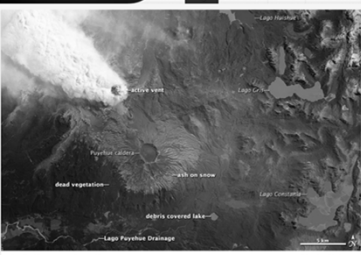






Earth Observatory Web Site

<http://earthobservatory.nasa.gov>



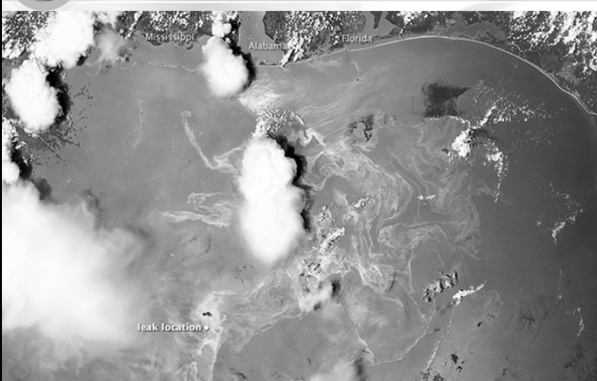
The Earth Observatory shares with the public the **images, stories, and discoveries** about **climate** and the **environment** that emerge from **NASA** research, including satellite missions, field research, and climate models.

Toxic Sludge in Hungary



On 4 October 2010 a corner wall in a waste water retaining pond broke releasing a torrent of toxic sludge

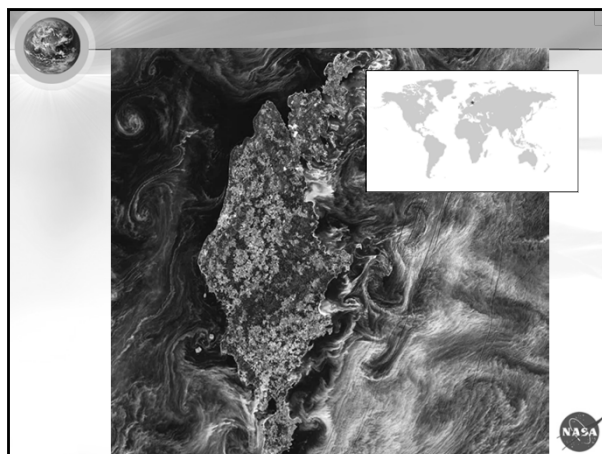
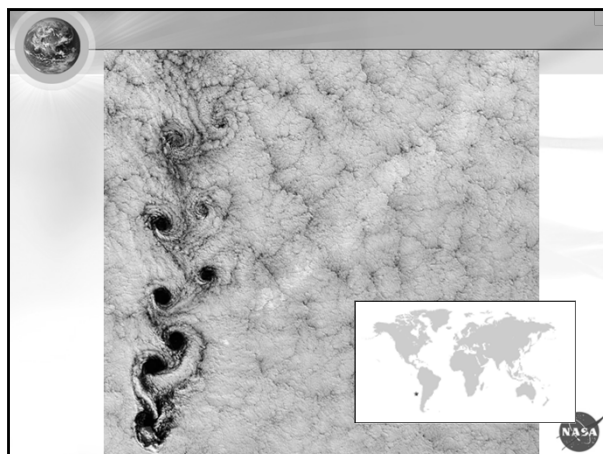
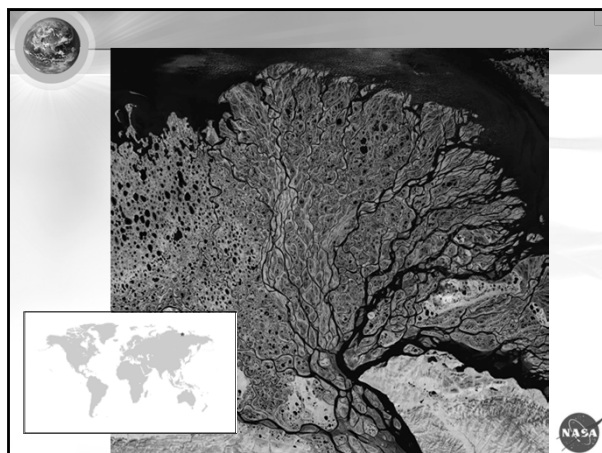
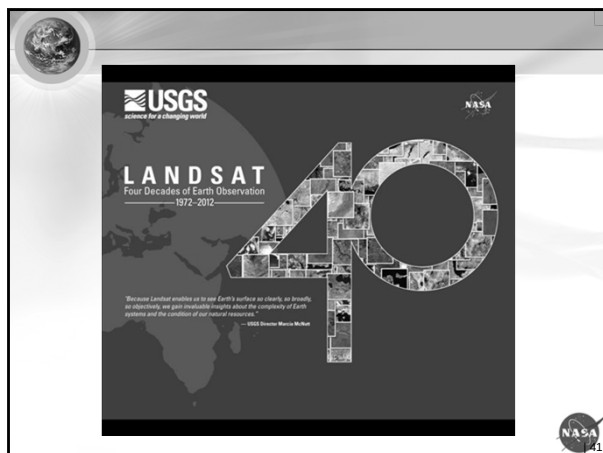
Gulf of Mexico Oil Spill

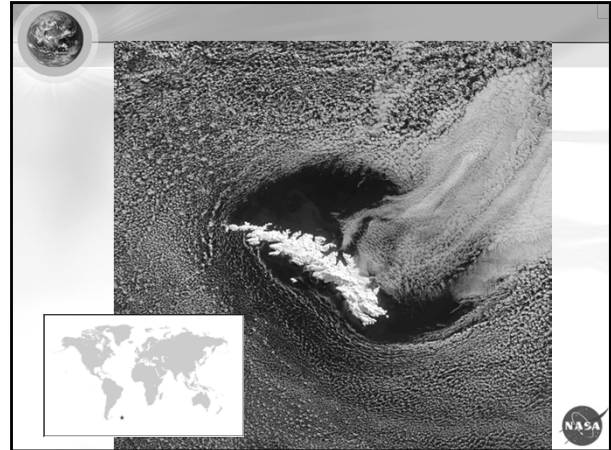
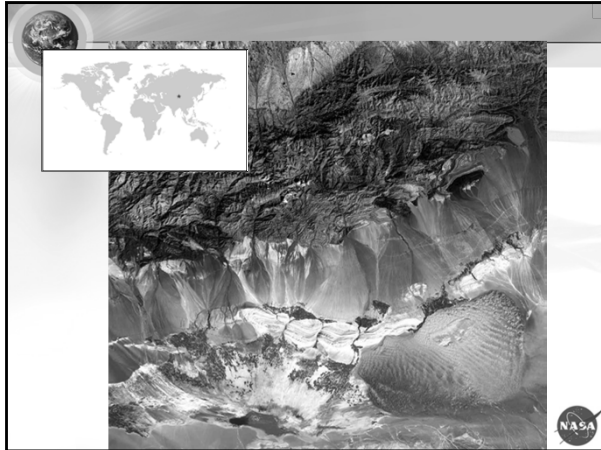


Where to get NASA Earth Science Data

Where to find NASA Earth Science Data and Products

- NASA SERVIR: <http://www.servir.net>
- NASA Earth Science Data: <http://earthdata.nasa.gov>
- NASA Near Real Time Data: <http://lance.nasa.gov>
- NASA Images and Earth News: <http://earthobservatory.nasa.gov>
- Fires: <http://maps.geog.umd.edu/firms/>
- Flooding: <http://floodobservatory.colorado.edu/>





Summary

International cooperation in global remote sensing can:

1. Provide data, products and applications that provide immediate societal benefits
2. Maximize government, academic and commercial partnerships and cooperation
3. Build human and technological capacity within countries to respond more efficiently to hazardous events and reduce the impacts of disasters



Thank You

Questions?

Contact Information

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